

## Claims

- 5        1.     Process for manufacturing expanded metal provided with a coating, characterized in that the coating is applied to a closed metal foil and the latter is converted into expanded metal only after the coating.
- 10       2.     Process in accordance with claim 1, characterized in that the coating is a coating that improves the adhesiveness of the expanded metal to an electrode material and/or the electron conductivity on the surface of the expanded metal.
- 15       3.     Process in accordance with claim 1 or 2, characterized in that the coating contains graphite or another carbon material together with a binder that improves the adhesiveness or an organic or inorganic-organic polymer, which is graphitized after the application to the metal.
- 20       4.     Process in accordance with one of the above claims, characterized in that the metal is copper or aluminum.
- 25       5.     Process in accordance with one of the above claims, characterized in that the metal foil is subjected to a corona discharge surface treatment before it is coated.
- 30       6.     Process in accordance with one of the above claims, characterized in that when the metal foil is converted into expanded metal, the short diagonal has a length of up to 1 mm and the long diagonal has a length of up to 2 mm.
- 35       7.     Process in accordance with one of the above claims, characterized in that the coating is applied by means of a printing technique, spin coating, rolling, application with a doctor blade, dip coating, electrostatic powder coating or by means of a plasma process.
- 40       8.     Expanded metal provided with a coating, which can be manufactured according to a process in accordance with one of the claims 1 through 7.
- 45       9.     Expanded metal provided with a coating, obtained according to a process in accordance with one of the claims 1 through 7.
10.    Expanded metal provided with a coating in accordance with claim 8 or 9, characterized in that the coating improves the adhesiveness of the expanded metal to an electrode material and/or the electron conductivity on the surface of the expanded metal.
11.    Expanded metal provided with a coating in accordance with claim 10, characterized in that the coating was applied by means of a suspension containing graphite or another carbon material and a binder, or of an organic or inorganic-organic polymer, which was subsequently graphitized.
12.    Use of expanded metal in accordance with claim 10 or 11 as a current collector in or for an anode foil or in or for a cathode foil.

13. Use in accordance with claim 12, characterized in that the current collector and the anode foil as well as the cathode foil are laminated together.
- 5 14. Use in accordance with one of the claims 12 or 13, characterized in that the anode foil and the cathode foil were prepared without the use of plasticizing agent.
15. Use of expanded metal in accordance with claim 10 or 11 in an electrochemical cell, especially a battery.
- 10 16. Use in accordance with claim 15, characterized in that the battery is a lithium battery.
- 15 17. Use in accordance with claim 16, characterized in that the battery was manufactured according to a technique that does not require the addition of plasticizing agent and its subsequent washing out.

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